REMARKS

Applicant would first like to thank Examiner Vo for this examination.

Claims 9-19 are currently pending in the application. Claims 9-19 are provisionally rejected for nonstatutory double patenting as being unpatentable over claims 1-8 of co-pending Application No. 11/853,017. Claims 9-19 stand rejected under 35 USC 112, second paragraph as being indefinite. Claims 9-19 stand rejected under 35 USC 101 as claiming non-statutory subject matter.

PROVISIONAL CLAIM REJECTION – NONSTATUTORY DOUBLE PATENTING

Claims 9-19 are provisionally rejected over claims 1-8 of co-pending Application No. 11/853,017. A terminal disclaimer is filed herewith, obviating this ground for rejection.

CLAIM REJECTIONS - 35 USC 112

Claims 9-19 stand rejected under 35 USC 112, second paragraph as being indefinite. The Office Action is unclear. As best understood, the Examiner appears to argue that it is not clear whether the length of the compressed versions of the software are the number of lines or the bit length. Applicants respectfully submit that the length of a compressed software component is well known in the art to mean its bit length. Kolmogorov complexity was defined in a 1965 paper by Andrei Kolmogorov as the length of a program in bits required to reproduce the original string. Software compression is a practical application of Kolmogrov complexity. Accordingly, the application is not indefinite as it would be clear to one of ordinary skill in the art that the length of the compressed program components would be the bit lengths.

CLAIM REJECTIONS - 35 USC 101

Claims 9-19 stand rejected under 35 USC 101 as claiming non-statutory subject matter. The office action appears to argue that the apparatus of claims 9-11 and the program storage device of claims 12-19 merely programize a formula. The office action then argues that the claims fail to meet the tangible, concrete and practical results.

The Examiner appears to be applying the State Street test for a statutory process. Under State Street, a process is patentable if it produces "a useful, tangible and concrete result". Applicants respectfully point out that the rejected claims are for an apparatus and program storage device, which are articles of manufacture not processes.

Applicant would like to respectfully point out that claims 9-11 are directed to an apparatus comprising logic. Applicant respectfully contends that the Office Action analysis is not

appropriate for such apparatus. An apparatus comprising logic is tangible, concrete, and useful and can not by definition be limited to manipulation of abstract ideas. Moreover, as clearly indicated in the specification, this logic may be a processor such as a microprocessor, and may include internal memory {see para. 018}. As such, claims 9-11 are directed to an apparatus comprising logic performing stated functions on a software component and produce something completely different -- a tangible and useful metric for software complexity which is useful in among other purposes: resource allocation, planning, scheduling, and cost estimation. As will be readily understood by those of ordinary skill in the art, this metric can be provided in various useful tangible forms, including: a digital memory with the metric encoded thereon, a display or paper media with the metric visible thereon, a digital media with the metric encoded thereon.

Applicant would also like to respectfully point out that claims 12-19 are directed to a program storage device readable by machine, tangibly embodying a program of instructions executable by machine to perform method steps for determining complexity of a software component. Applicant respectfully contends that the Office Action analysis is not appropriate for a program storage device which is a product of manufacture and not a process. A program storage device is tangible, concrete, and useful and can not by definition be limited to manipulation of abstract ideas. Moreover, as clearly defined in the specification {see para. 20} the program storage device implements the methods described and controls implementations of the apparatus described. Thus, the tangible, concrete and useful program storage device implements a method for providing a useful metric. Furthermore, the usefulness of program storage device can be realized by control of the apparatus described in the specification.

With regard to the analysis of the Office Action, Applicant respectfully disagrees that Claims 9-19 are simply a formula or pure mathematics. In *Schrader* the Federal Circuit determined that section 101 required a process claim to have a transformation or reduction of subject matter and that data or signals may constitute subject matter. In *Warmerdam* the Federal Circuit acknowledged that "if a claim requires more than the manipulation of ideas so that the process described in the claim produces something quite different, then the process might indeed describe statutory subject matter. Claims 9-19 provide transformations and produce a metric which is a useful measure of the complexity of a software component and is quite different than the software component. A software component is transformed to another version, such as a normalized version or a normalized, unique version. The versions of the software component are transformed again by compression. The compressed software component is different from the uncompressed version.

Even if the claims in question were treated as methods as the Examiner suggests, Applicant respectfully contends that they meet the statutory requirements of section 101. In *Schrader* the Federal Circuit determined that section 101 required a process claim to have a transformation or reduction of subject matter and that data or signals may constitute subject matter. Claim 9 includes several transformations of subject matter. First, a plurality of versions of a software component are created. As specifically provided in the specification a normalized version of the software component may be created by, for example, removing comments,

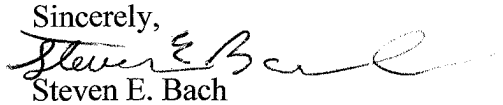
converting sequences of spaces into a single space, and sorting the remaining lines in lexicographic order. Alternatively, a normalized version of the software component may be created by reformatting the program text according to a stylistic standard. Similarly, a normalized unique version may be created by eliminating duplicate lines. Creating new versions of a software component clearly comprises a transformation of subject matter – the subject matter being the program text of the software component. The newly created version is something different than the original program text of the software component. Additionally, the step of compressing the versions of the software component is also a transformation, as the compressed versions are something different than the versions created in the previous step. Then lengths of the compressed versions are determined, again producing something new. A length of a compressed version of a software component is different from the compressed version itself. Providing a software complexity metric comprising a comparison of the lengths of the compressed versions is yet another transformation. The software complexity metric is not a mere abstract idea, but a useful tool in the field of software development and testing for assessing the effort required for various operations pertaining to the software. Moreover, Applicant would like to respectfully point out that the metric is not merely a number, but a measure of a tangible thing, namely the complexity of a specific software component. Finally, presenting the complexity metric is another transformation, as the metric is being transformed from a signal in the logic to something tangible, concrete and useful – a presentation of the metric, such as a display or a transformation of a memory state.

The metrics are not determined by simply calculating a ratio. The claims must be taken as a whole. Accordingly, Applicants respectfully submit that claims 9-19 are directed to statutory subject matter because they are tangible, useful and concrete products of manufacture and because they provide transformations of subject matter.

CONCLUSION

In view of the amendments and arguments presented herein, Applicant respectfully contends that claims 9-19 are in condition for allowance. Accordingly, Applicant respectfully requests entry of the amendments, reconsideration and allowance of claims 9-19 and issuance of letters patent.

Sincerely,



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